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SOUTH AMERICAN *ANOLIS: ANOLIS PARILIS*, NEW SPECIES, NEAR *A. MIRUS* WILLIAMS

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ABSTRACT. *Anolis parilis* is described as the west Ecuadorian representative of *A. mirus* from the Rio San Juan, Colombia. *A. parilis* differs from *A. mirus* in a number of ways, all individually minor, but sufficient in sum to indicate species status.

The species *Anolis mirus* was described (Williams, 1963) from a single specimen with the imprecise locality "Rio San Juan Colombia." No further specimens have been collected in the intervening years.

However, another single specimen, obviously related, has come to hand from intermediate elevations in Ecuador. Despite its closeness to *A. mirus,* even in characters quite special to that species, it appears to differ enough to deserve description as a new species which I name because of its similarity as:

Anolis parilis n. sp.

Type. UIMNH 82901, an apparently adult male.

Type locality. Rio Baba, 2.4 km S Sto Domingo de los Colorados, Pichincha, Ecuador. George Key, collector. November, 1965.

Diagnosis. Very close to *A. mirus* but differing in color, in smooth rather than keeled ventrals and in other minor scale characters. Perhaps also different in size.

Head. Head scales small, weakly keeled. About 17 scales across snout at level of second canthals. Six scales bordering

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rostral posteriorly. Anterior nasal separated from rostral by one scale. Seven scales between supranasals.

At least 4 scales between supraorbital semicircles, the scales of which are not much enlarged. Supraocular disk not differentiated. A short supraciliary on each side followed by granules. Canthus distinct, 9 canthal scales, the fourth largest. Seven loreal rows below third canthal (2nd canthal *behind* level of loreal rows on the rise of the orbit). Uppermost and lowermost loreal rows largest.

Temporal and supratemporal scales granular. An indistinct double line of enlarged granules at margin between supratemporal and temporal areas. Scales around interparietal larger. Interparietal about equal to ear opening, separated from supraorbital semicircles by six scales.

Suboculars narrowly in contact with supralabials, posteriorly grading into upper temporal granules, anteriorly separated by one scale from canthal ridge. Nine supralabials to below center of eye.

Mentals wider than deep, in contact with eight scales between infralabials. No differentiated sublabials. Central throat scales smallest, grading laterally into larger distinctly keeled scales.

Trunk. Two middorsal rows tending, especially on nape, to be conical, enlarged, smooth, subimbricate. Ventrals larger than dorsals, subquadrate, smooth.

Dewlap. Large, extending onto first third of belly. Edge scales about equal to ventrals. Lateral scales much smaller than ventrals, in rows, widely separated by naked skin. Above dewlap on sides of neck complex folding between ear and shoulder.

Limbs and digits. Largest arm and leg scales about equal to ventrals and weakly unicarinate except those of elbows and knee larger and multicarinate. Supradigital scales multicarinate. Fifteen scales under phalanges ii and iii of fourth toe; distal phalanx not raised.

Tail. Compressed, without crest. Dorsalmost scale row single, keeled. Ventralmost scales larger, strongly keeled. Postanals irregularly enlarged.

Color (as preserved). Red-brown with a narrow black middorsal line. Black mottling tending to transverse banding on side of neck and lower flanks.

Size. 81 mm, snout-vent length.

Discussion. The resemblances and differences between *A. parilis* and *A. mirus* are made clear in Table 1. The differences

are just sufficient to imply species distinction given that there are only two specimens before us. Size appears to differ but it is precisely in the larger species of *Anolis* that there is a long period of growth after sexual maturity. The color and pattern of the two are radically different as preserved, but neither are known from life. It is improbable but not impossible in a genus such as *Anolis* that a difference as great as seen here could exist in the color repertoire of a single species. No single one of the scale differences — smooth versus keeled ventrals, suboculars in contact with supralabials rather than separated by one scale row, the greater number of scales across the snout, the different rostral-nasal relationship, etc. — are quite outside the possibility of intraspecific variation. Taken together, however, they point to a high probability of specific difference, i.e., genetic discontinuity.

Nothing is known of the ecology of either of these species. The few suggestions that can be made are inferences from structure only. The narrow toe pads without a raised anterior margin (the condition described as the diagnostic character of the invalid genus *Norops*) are characteristic of some anoles that are not arboreal but are grass or ground dwellers; this is a derived condition within anoles that has been evolved repeatedly. Most *Norops*-like anoles are small (less than 60 mm snout-vent length), but the South American group to which *parilis* and *mirus* seem to belong — the *eulaemus* species group — verges on giant size (arbitrarily defined for *Anolis* as 100 mm snout-vent length). Within the *eulaemus* group two subgroups may be distinguished, one of which has the toe pads narrow but with a "raised" distal edge — the *eulaemus* group s. str. — and another with the toe pads *Norops*-like. The latter is the subgroup to which *parilis* and *mirus* belong along with *A. aequatorialis* (the ecology of which again is quite unknown). A combination of giant size and toe pads that are poorly differentiated would suggest a ground dweller. The artist who drew *mirus* in fact showed the animal on a rocky substrate — on no evidence whatever (Fig. 2, Williams, 1963). In fact, however, both *parilis* and *mirus* have the first phalanx of each digit enlarged and strengthened (shown well in *mirus* in Fig. 1, Williams, 1963), a fact that probably does imply climbing propensities but with claws not pads. No more can be said until observations on the live animals are reported.

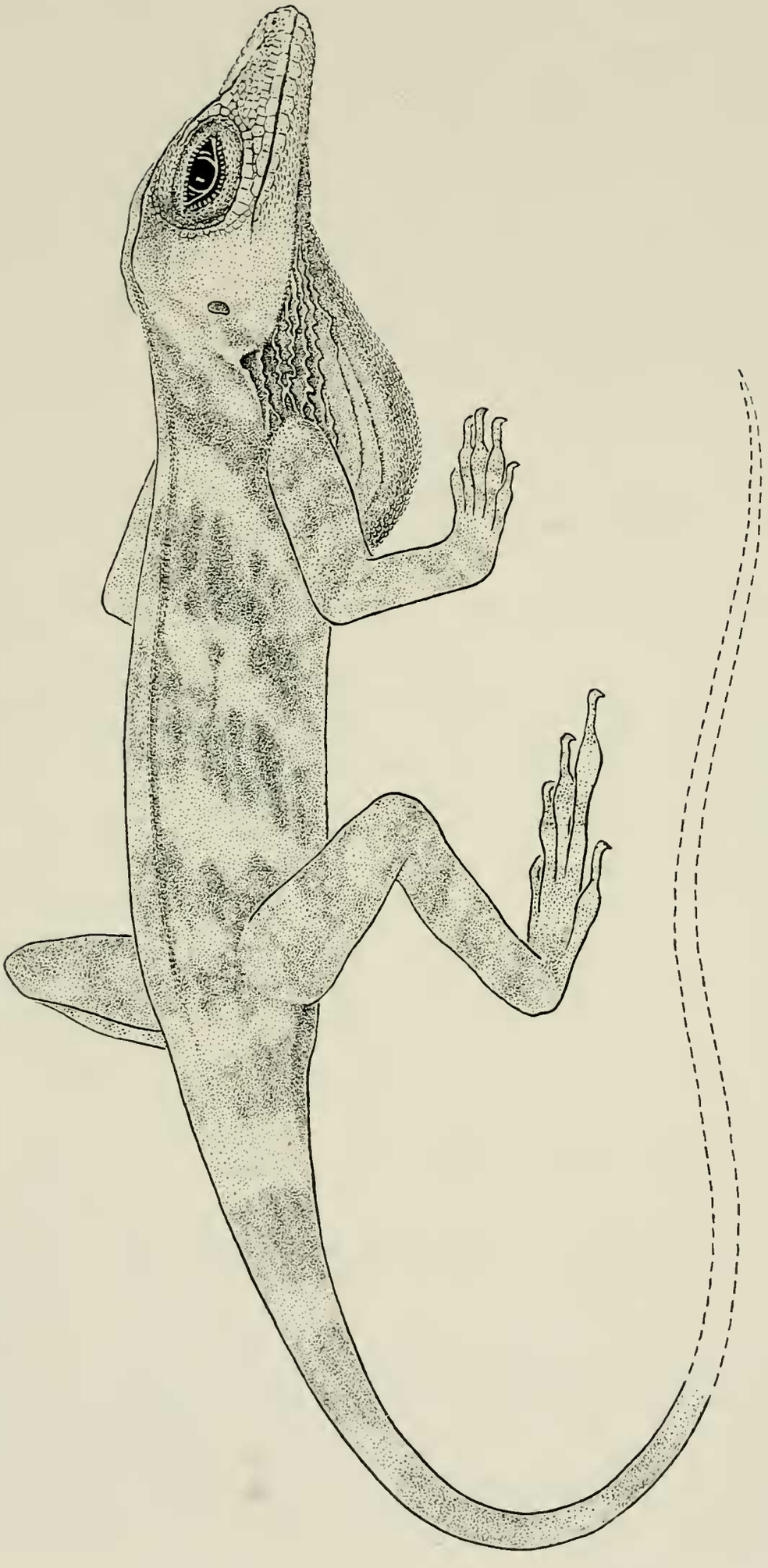

Fig. 1. *Anolis parilis* Type. Lateral view to show pattern.

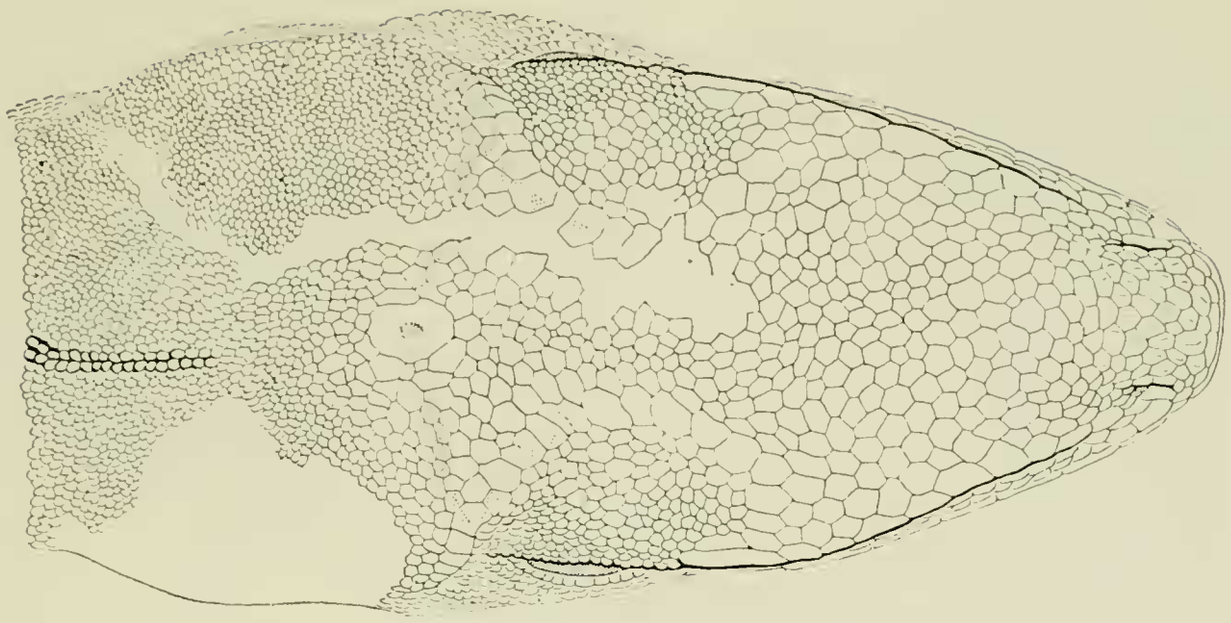

Fig. 2. *A. parilis* Type. Dorsal view of head scales.

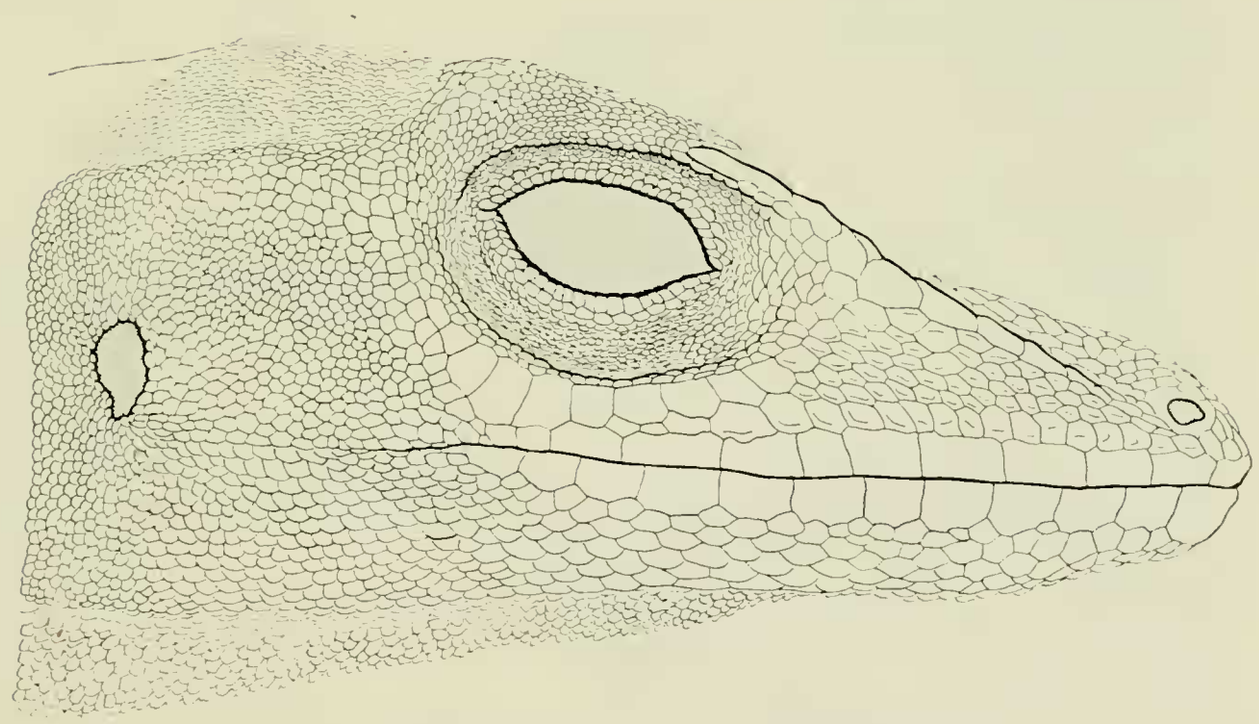

Fig. 3. *A. parilis* Type. Lateral view of head scales.

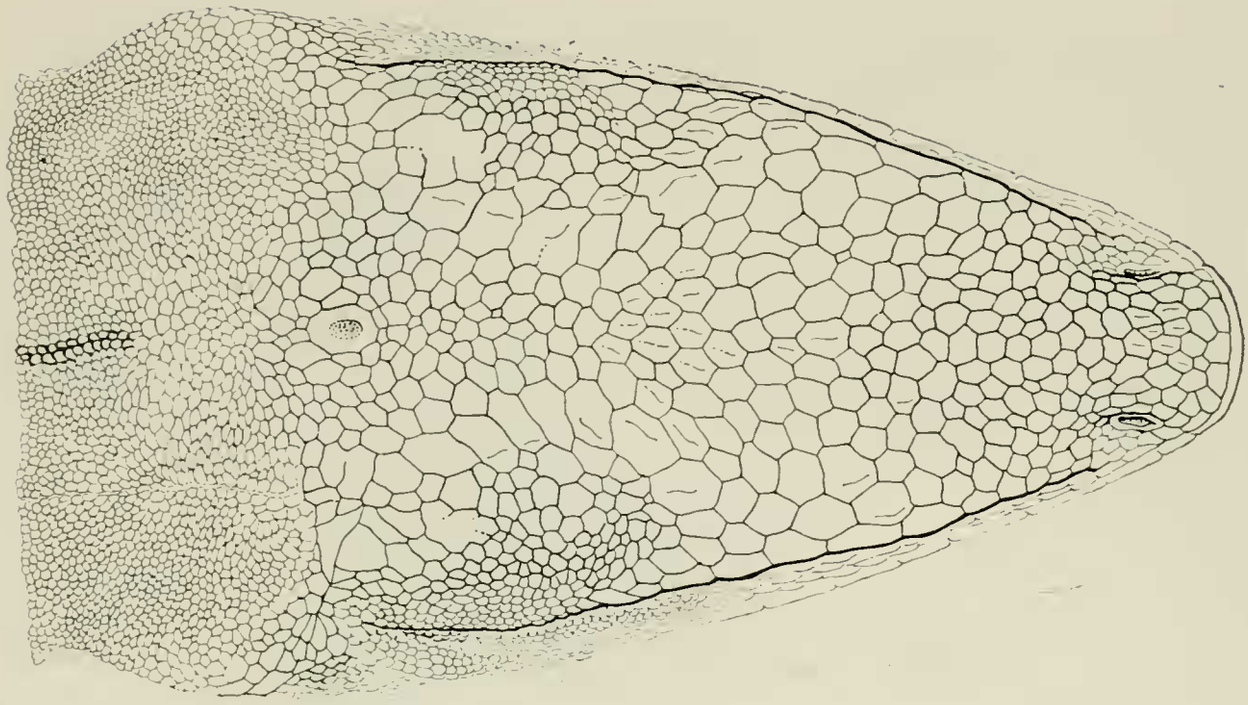

Fig. 4. *A. mirus* Type. Dorsal view of head scales.

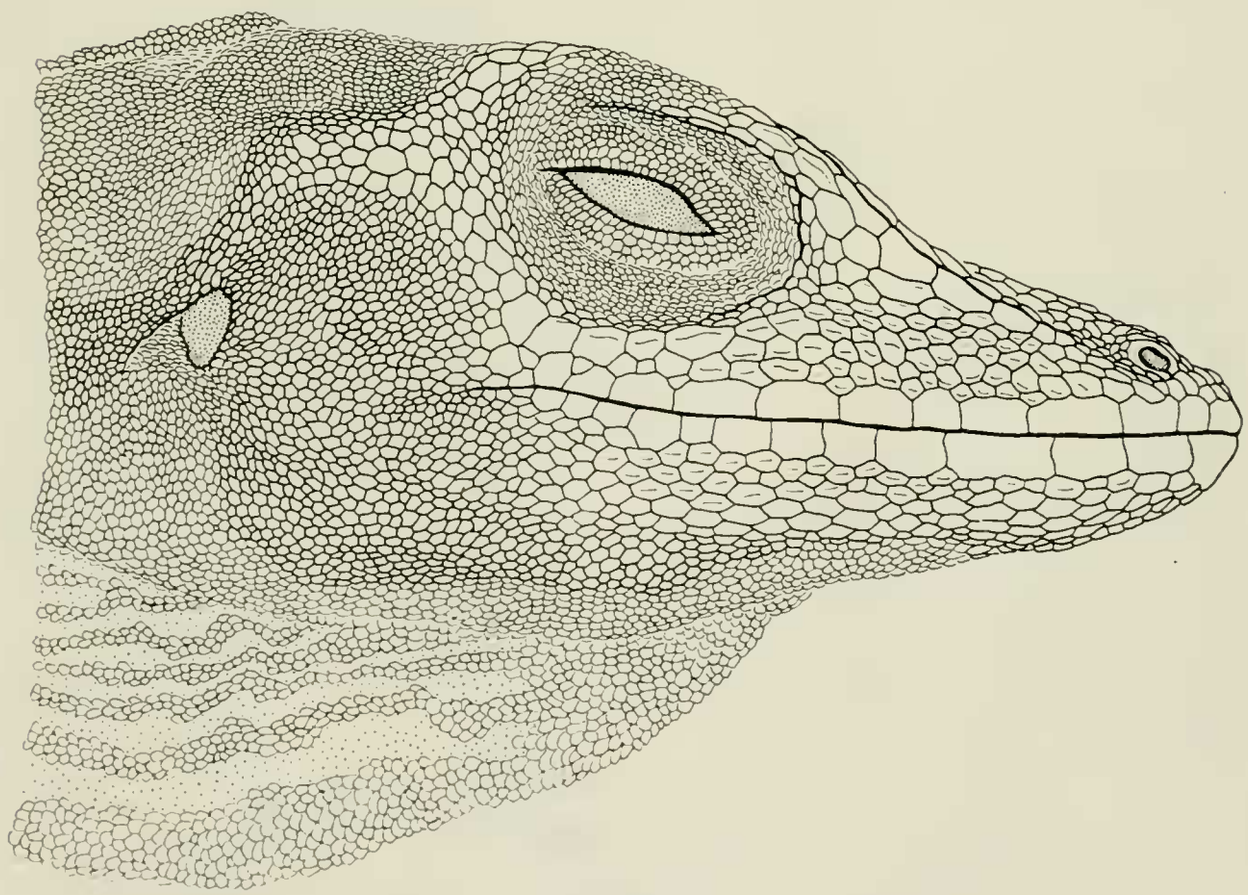

Fig. 5. *A. mirus* Type. Lateral view of head scales.

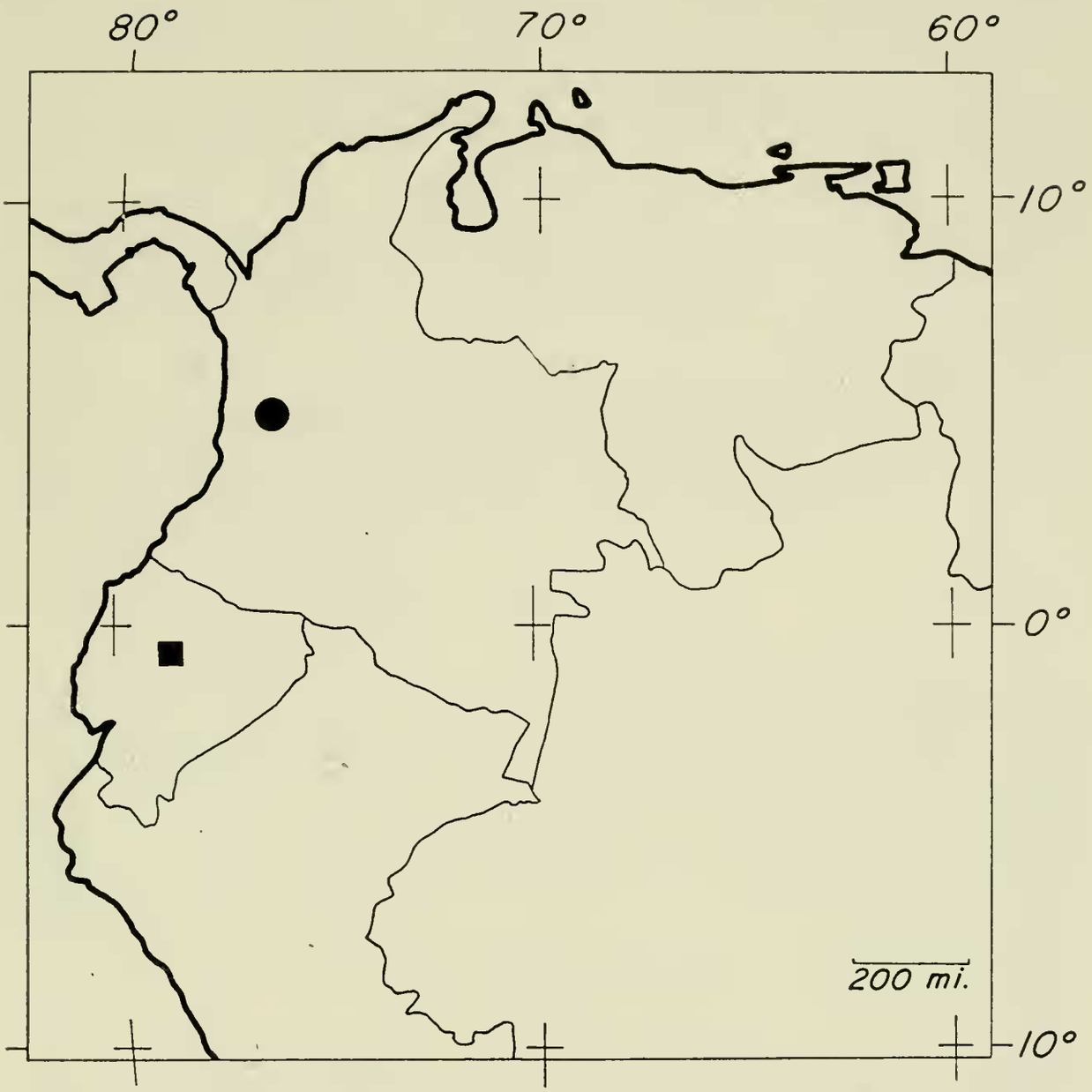

Fig. 6. Dark circle = type locality of *Anolis mirus*. Dark square = type locality of *Anolis parilis*.

ACKNOWLEDGMENTS

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LITERATURE CITED

Williams, E. E. 1963. Studies on South American anoles. Description of *Anolis mirus,* new species, from Rio San Juan, Colombia, with comment on digital dilation and dewlap as generic and specific characters in the anoles. Bull. Mus. Comp. Zool. **129:** 463–480.

TABLE 1

Comparison of *A. parilis* and *mirus*.

	parilis	*mirus*
scales across snout	17	12
rostral/nasal	*one* scale between nasal and rostral	*two* scales between nasal and rostral
scales between supra-orbital semicircles	4	4
supraciliaries	one (short) followed by granules	on one side the same; on the other one (short) and granules in the middle of the supraciliary margin and enlarged scales posteriorly
temporal line	a very *indistinct* double line	a triangle of *distinctly* enlarged scales
scales around interparietal	*gradually* larger than dorsals or temporals	*abruptly* larger than dorsals or temporals
rows between interparietal and semicircles	6	4
rows between suboculars and supralabials	0	one *interrupted* row
supralabials to center of eye	9	10
mental	wider than deep	wider than deep
scales in contact with mental between infralabials	8	6
sublabials	not differentiated	same
dewlap	large, scales in *weakly defined* rows, edge scales ca = ventrals, complex folding between ear and shoulder	large, scales in *well defined* rows, edge scales ca = ventrals, complex folding between ear and shoulder
adhesive pad	not set off from first phalanx (*Norops* condition)	same
lamellae under phalanges ii and iii of fourth toe	15	15
snout-vent length	81 mm	116 mm